

CLAIMS

What is claimed is:

1. A railcar-moving vehicle comprising:
a modified semi-tractor, having a highway mode for operation on roadways, and a rail
5 mode for operation on rails, and including
an elongate frame;
selectively extendable high rail wheels, configured for guiding the vehicle on
rails when in rail mode; and
rubber-tired drive wheels, disposed toward a rear portion of the frame, the drive
10 wheels being configured to support the vehicle on a roadway in highway
mode, and to contact the rails in rail mode;
a moveable weight, disposed on the rear portion of the frame; and
a load-shifting mechanism, configured to move the moveable weight between a
rearward position for rail mode, and a forward position for highway mode, the
15 forward position being forward of at least some of the drive wheels.
2. The railcar-moving vehicle as described in claim 1, wherein the moveable
weight weighs about 13,000 pounds.
- 20 3. The railcar-moving vehicle as described in claim 1, wherein the moveable
weight weighs more than about 20% of the weight of the railcar-moving vehicle without the
weight.
4. The railcar-moving vehicle as described in claim 1, wherein the total vehicle
25 load upon all drive wheels is less than 42,500 pounds in highway mode, and more than
42,500 pounds in rail mode.
5. The railcar-moving vehicle as described in claim 1, wherein the load-shifting
device comprises a hydraulic cylinder attached to the weight, configured to extend to move
30 the moveable weight to the rearward position, and to retract to move the moveable weight to
the forward position.

6. The railcar-moving vehicle as described in claim 1, wherein the forward position and rearward position require a distance of travel of the load-shifting mechanism of about six feet.

5 7. The railcar-moving vehicle as described in claim 1, wherein the moveable weight is disposed atop low-friction polymer pads supported by the elongate frame.

8. The railcar-moving vehicle as described in claim 1, wherein the moveable weight comprises metal plates affixed together in a single mass.

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9. The railcar-moving vehicle as described in claim 1, further comprising an enclosure, surrounding the weight and the load-shifting mechanism

10. The railcar-moving vehicle as described in claim 9, wherein the enclosure
15 provides an upper platform for supporting cargo atop the rearward portion of the modified semi tractor.

11. The railcar-moving vehicle as described in claim 1, wherein the rubber-tired drive wheels comprise six drive wheels on three drive axles, the three drive axles being
20 mechanically linked for providing driving power in rail mode.

12. A railcar-moving vehicle, comprising:
a modified semi tractor, selectively reconfigurable for operation on roadways and on
railroad track, said modified semi tractor having a frame, an engine, and at least
25 one pair of drive wheels powered by said engine, said frame having a rearward
portion and said drive wheels being disposed toward a rear of the rearward
portion of said frame and configured to contact railroad rails when operating on
railroad track;
a coupler, configured for coupling to a railcar, disposed at a rearward extremity of the
30 frame of the modified semi tractor;
a moveable weight, disposed on the rearward portion of the frame; and
a load-shifting device, configured to shift the moveable weight between a forward
position for operation on roadways, the forward position imposing a smaller
portion of the load of the moveable weight upon the drive wheels, and a

rearward position for operation on railroad track, the rearward position imposing a larger portion of the load of the moveable weight upon the drive wheels, so as to provide greater traction for the drive wheels when operating on railroad track.

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13. The railcar-moving vehicle as described in claim 12, wherein the moveable weight weighs about 13,000 pounds.

14. The railcar-moving vehicle as described in claim 12, wherein the moveable
10 weight weighs more than about 20% of the weight of the railcar-moving vehicle without the moveable weight.

15. The railcar-moving vehicle as described in claim 12, wherein the drive wheels
15 comprise six drive wheels on three drive axles, the three drive axles being mechanically linked for providing driving power in rail mode, the total vehicle load upon all drive axles combined being less than 42,500 pounds when the vehicle is configured for operation on roadways, and more than 42,500 pounds when the vehicle is configured for operation on railroad track.

20 16. The railcar-moving vehicle as described in claim 12, wherein the load-shifting device comprises a hydraulic cylinder attached to the moveable weight, configured to extend to move the moveable weight to the rearward position, and to retract to move the moveable weight to the forward position.

25 17. The railcar-moving vehicle as described in claim 12, wherein the forward position and rearward position require a distance of travel of the load-shifting mechanism of about six feet.

18. The railcar-moving vehicle as described in claim 12, wherein the moveable
30 weight is disposed atop low-friction polymer pads supported by the elongate frame.

19. The railcar-moving vehicle as described in claim 12, further comprising an enclosure, surrounding the moveable weight and the load-shifting mechanism, the enclosure

providing an upper platform configured for supporting cargo atop the rearward portion of the modified semi tractor.

20. A railcar-moving vehicle comprising:
- 5 a modified semi-tractor, having a highway mode for operation on roadways, and a rail mode for operation on rails, and including
- an elongate frame with a front portion and a rear portion;
- a coupler, configured for coupling to a railcar, disposed at a rearward extremity
- 10 of the rear portion of the frame;
- front wheels disposed toward the front portion of the frame and configured to
- contract a roadway during operation in highway mode;
- selectively extendable high rail wheels, configured for guiding the vehicle on
- 15 rails when in rail mode; and
- rubber-tired drive wheels, disposed toward the rear portion of the frame, the
- drive wheels being configured to support the vehicle on the roadway in
- highway mode, and to contact the rails in rail mode;
- a moveable weight, moveably disposed on the rear portion of the frame, the moveable
- weight being selectively moveable between a rearward position and a forward
- 20 position;
- a load-shifting mechanism, configured to move the moveable weight between the
- rearward and forward positions, the forward position being such that a greater
- portion of the load of the moveable weight is distributed to the front wheels,
- and the rearward position being such that a greater portion of the load of the
- 25 moveable weight is distributed to the drive wheels; and
- an enclosure, surrounding the moveable weight and the load shifting mechanism.